


8-1-1999

### BS News

Follow this and additional works at: <https://arrow.tudublin.ie/bsn>

 Part of the [Civil Engineering Commons](#), [Construction Engineering Commons](#), and the [Construction Engineering and Management Commons](#)

---

#### Recommended Citation

(1999) "BS News," *Building Services News*: Vol. 38: Iss. 7, Article 1.

doi:10.21427/D72M5X

Available at: <https://arrow.tudublin.ie/bsn/vol38/iss7/1>

This Article is brought to you for free and open access by the Journals at ARROW@TU Dublin. It has been accepted for inclusion in Building Services News by an authorized administrator of ARROW@TU Dublin. For more information, please contact [yvonne.desmond@tudublin.ie](mailto:yvonne.desmond@tudublin.ie), [arrow.admin@tudublin.ie](mailto:arrow.admin@tudublin.ie), [brian.widdis@tudublin.ie](mailto:brian.widdis@tudublin.ie).



This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 3.0 License](#)

# BSN News

MECHANICAL & ELECTRICAL BUILDING SERVICES

AUGUST 1999

**Opus  
Building of  
the Year  
Awards at  
Plan Expo  
1999**

**RDS  
4, 5, 6  
November**

## **INSIDE**

**Pipework, Drainage &  
Rainwater Systems**

**European A/C Market Study**

**A View on Project Management**

# Innovation in Pumping Technology



MVi



MHi

Stainless Steel Vertical and Horizontal multistage pumps for water supply, boosting, sprinkling, irrigation, high pressure wash, fire protection and water treatment (De-mineralisation, Filtering).

- Water supply
- Boosting
- Sprinkling
- Irrigation
- High pressure wash
- Fire protection
- Water treatment
- Boiler Feed

**WILO**  
Pumping-Perfection

WILO Engineering Ltd., Enterprise Centre  
Childers Road, Limerick, Ireland  
Telephone: 061- 41 09 63 Telefax: 061- 41 47 28



# BSNews\*

MECHANICAL & ELECTRICAL  
BUILDING SERVICES

ISSN 0791-0878

Published by:  
Pressline Ltd,  
Carraig Court,  
George's Avenue,  
Blackrock, Co Dublin.  
Tel: 01-288 5001/2/3 Fax: 01-2886966  
ISDN: 01 - 211 2338/9  
eMail: pressl@iol.ie

**Editor:** Pat Lehane  
**Advertisement Manager:** Joe Warren  
**Administration:** Edel Burke

**Origination and Design:**  
Pressline Ltd. Tel: 01 - 288 5001

**Subscription:** One Year — £27  
**Printed by:** Kilkenny People.

© All editorial contents and all advertisements prepared by the publishers, Pressline Ltd.

\* Incorporating Irish Heating & Ventilating News.

## Readership Data

Irish Building Services News (formerly Irish H&V News) is Ireland's only Building Services magazine providing coverage of heating, ventilating, air conditioning, refrigeration, sanitaryware, plumbing, maintenance and environmental industries. It is the only publication catering exclusively for these industries and its circulation includes members of the following:- Chartered Institution of Building Services Engineers (CIBSE); The Mechanical Engineering & Building Services Contractors' Association (MEBSCA); The Association of Consulting Engineers of Ireland (ACEI); The Mechanical Engineering Contractors' Association; The Institute of Domestic Heating Engineers (IDHE); The Registered Heating Contractors Association; The Maintenance, Energy & Environmental Technology Association (MEETA) which incorporates energy managers and maintenance managers; The Energy Conservation & District Heating Association; The Institute of Plumbing; The Irish Home Builders Association (IHBA); Builders Merchants/Trade Supply Outlets; Irish Property & Facilities Managers Association.

In addition, Irish Building Services News circulates to independent building services contractors and key executives in industry. Government, Semi-State and local authority bodies. Essentially, our circulation is virtually saturation coverage of all those with an interest and/or involvement in the industry.

## CIF & RIAI Endorse Plan Expo

Plan Expo, Ireland's construction industry showcase, has been formally endorsed by the CIF and the RIAI and is now presented in association with both bodies. This is a very significant development and comes against a background where the construction sector is worth in the region of £9.7 billion, employs 140,000 people directly, and a further 50,000 indirectly.

New products, innovative ideas and forward-looking designs will feature prominently at Plan Expo (RDS, 4/5/6 November 1999). Indeed, the show is now firmly established as a vital and integral part of the dynamic, trend-setting process that constitutes Ireland's booming construction and built environment industries, rather than something which merely reflects it.

Additionally, HireXpo — the stand-alone show for the construction-related tools, plant and equipment industries which runs in tandem with Plan Expo — is also vastly extended. Hence the necessity to move the combined shows to the much bigger Simmonscourt Pavilion at the RDS for the forthcoming event.

Everyone involved in the construction sector can now avail of this unprecedented opportunity to view all that the industry has to offer at the one single location, while also being able to experience and participate in the comprehensive programme of related events and awards schemes, including the Opus Building of the Year Awards as featured on this month's cover of *BSNews*.

To receive your VIP pre-registration form contact:  
Pauline Kennedy at Tel: 01 - 295 8181.

## IN THIS ISSUE

News/Product Information	2
PHD & Grohe — "Touchless" Bathroom Saves Water	8
CIBSE News	10
Pipework, Drainage & Rainwater Systems	11
European AC Market Study	22
Energy Awareness Week — Business Opportunities	23
Project Management — A Personal View	24
Dan Chambers at City West	27
ABB — Active Noise Control in Ventilation	29
IDHE News	30
BTU Round-Up	31
Energy Efficiencies in Cleanroom Environments	32



## Cylon Look to Further Growth

Cylon Controls Ltd, Ireland's market leader in building management systems (BMS), has appointed John O'Driscoll as Sales Manager to spearhead its new sales and marketing initiatives. A science and business graduate of University College Cork, John has extensive experience in the electronics sector, having worked in Ireland and abroad, and especially Germany, for a number of years.



John O'Driscoll,  
Sales Manager, Cylon Controls

Cylon has a long-established reputation for quality building management systems. Since the company

was first set up 15 years ago, it has invested substantial sums in R&D, continuously applying leading-edge technology to develop ever-more innovative BMS control systems.

The service provided is all-embracing, the modular systems being highly flexible and ideally suited to adaptation when devising tailor-made solutions for specific applications. A particular advantage is the direct access Approved Cylon Systems Integrators (ACSI's) have to Cylon's Dublin-based technical support and R&D teams when projects are being discussed and installed.

The September '99 issue of *BSNews* will include an interview with John detailing the scope and extent of the Cylon BMS portfolio, and the broad-ranging support the company provides.

Contact: John O'Driscoll, Cylon. Tel: 01 - 836 6626. email: askus@cylon.ie

### Offaly Foundry Hosts European Standards Meeting



Cavanagh Foundry, the Birr-based company, recently hosted the Annual Meeting of the European Committee for Standards. The Committee discusses and sets all standards relating to gully covers, manhole covers and drainage gratings. Every European country was represented at the meeting.

Pictured here are: Gerhard Hüls, Walter Weiler and Jochen Kropf, with Pdraig Freeman, Quality Manager, Cavanagh Foundry.

## Project Management: Training & Certification

The IEI project management training programme consists of two modules - A & B - each of two days duration. Attendance at module A is a prerequisite to enrolling for module B.

This programme is the first stage for an individual to achieve certified status such as a project manager and, in this regard, The Project Management Institution (USA), the world's foremost organisation devoted to the advancement of the project management profession, is offering the opportunity to earn Project Management Professional (PMP) certification. It is planned to hold certification examinations at the University of Limerick.

This programme will provide the participant with the basic concepts outlined in the PMI's A Guide to the Project Management of Knowledge and it will offer skills required for the better management of projects. It will do this by using structured, inter-active, purpose-designed training materials. Each participant will be required to work through the training materials with the facilitator and test his/her knowledge using set assignments.

The programme will be of interest to all persons working within a projects-driven company or a contemporary organisation which handles projects. It will also be of interest to anyone in management who wishes to advance their career.

### Course Outline

#### Module A: Day 1

- ☐ Introduction to Project Management
- ☐ The Project Management Process
- ☐ Project Scope Management
- ☐ Project Time Management

#### Module A: Day 2

- ☐ Project Time Management
- ☐ Project Cost Management

#### Module B: Day 1

- ☐ Project Risk Management
- ☐ Controlling the Project
- ☐ Project Procurement Management

#### Module B: Day 2

- ☐ Project Quality Management
- ☐ Critical Success Factors
- ☐ Team roles: the perfect team

Facilitator: Professor Albert Hamilton, holder of the Kent chair in Project Management and Director, Centre for Project Management at the University of Limerick.

**Venue:** The IEI Education Centre, 22 Clyde Road, Dublin 4

**Dates:** Module A: 27 & 28 September, 1999 (Repeated 15 & 16 November)

Module B: 4 & 5 November, 1999 (Repeated 13 & 14 December).

For fee details etc contact: Patricia Rochford, IEI. Tel: 01 - 668 4341.



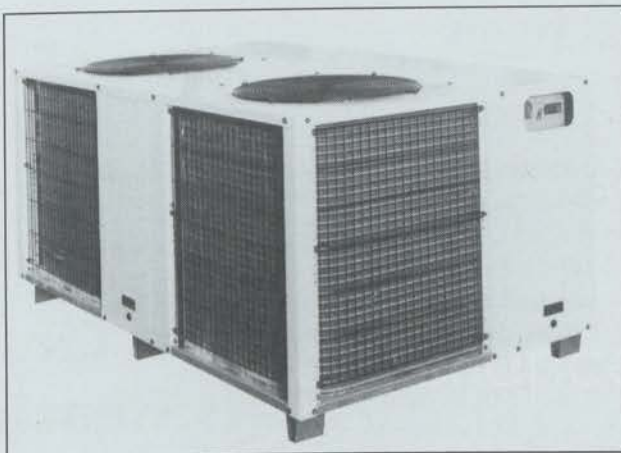
## Widest Ever Lennox Range

The well-publicised acquisitions by Lennox, in recent years, of HCF in France, Refac in Holland and Spain, and Ruhaak in Germany – combined with the subsequent consolidation and development of its own manufacturing capabilities – have made Lennox a major player in Europe, with a comprehensive product range to meet most HVAC system requirements.

Lennox has long been an acknowledged market leader in the packaged rooftop field and has recently launched market-leading fan coil products. Moreover, Lennox has also been steadily building a reputation for excellence in chiller products. Now there is a very wide range of chiller models from 8kW to 1522kW including air, water cooled and heat pump versions, and encompassing scroll, screw and reciprocating technologies.

The screw compressor models are particularly remarkable in using a 5-6 lobes high-performance profile which gives a 15-20% efficiency improvement over conventional profile compressors. This makes the Lennox screw very well-suited to high-load applications.

Lennox's chiller models operate with a broad range of refrigerant choices including R22, R134a, R404A and R407C. Having tested R407C as far back as 1993, Lennox was the first



From the extensive Lennox chiller range

manufacturer to use R407C as a standard refrigerant in a liquid chiller. Now it is available as a standard in part of the range and as an option on several models.

Control is central to system operation and efficiency and Lennox has brought in the Climatic control and management system that can interface with most of the latest integrated BMS systems. Climatic is used to provide precise temperature control and stability for chilled or heated water. Its functions include ensuring unit safety and optimising system operation. The system uses

graphic or alphanumeric screens to enable users to check system operating and diagnostic information. Each Climatic unit can control up to eight chillers and auxiliary equipment such as pumps and valves.

Chillers are at the heart of the "expert systems" required by today's buildings. Lennox recognises the nature of "expert systems" and now has the range of equipment and the technical expertise to provide "the complete package".

Contact: Vincent O'Mahony, Walkair.

Tel: 01 - 456 8070.

## Airedale & RC Group Business Partnership

Airedale International Air Conditioning and Italian-based manufacturer, RC Group, have recently signed a Business Partnership agreement to consolidate their businesses in the UK and Italian air conditioning markets.

Both companies carry a wide range of air conditioning products, covering comfort, close control and chillers. With a combined turnover of over 100 million Euro, the Airedale/RC partnership will be looking at different ways of expanding their business on a worldwide basis.

"We are two similar privately-owned companies with a great knowledge of the Italian, UK and worldwide air conditioning markets, and we should be able to develop the partnership", said Rodolfo Cacioli of RC Group.

"While we have competing products in our portfolios, we know what the end users want and we can jointly provide it for them", said Alan Duttine of Airedale.

## Hanna Elected to Architects World Body

The 21st Assembly of the International Union of Architects meeting in Beijing earlier this summer elected Peter Hanna B.Arch, FRIAI, RIBA as one of the four Council members representing Region One: Western Europe, for a 3-year term.

The UIA is the only officially-recognised architectural association with the WTO (World Trade Organisation) and over the next three-year period will be actively involved in the next round of negotiations under the aegis of GATS.

Peter Hanna was President of the Royal Institute of the Architects of Ireland for 1992/1993 and is currently a member of the Executive Board of the Architects' Council of Europe.

Contact: Orla O'Hehir, RIAI. Tel: 01 - 676 1703; email: oohahir@riai.ie

## Energy Action Auction

A gala dinner and celebrity art auction in aid of Energy Action will take place in the Berkeley Court Hotel on Thursday, 30 September, 1999.

Contact: Michael A Kelly, Auction Co-ordinator. Tel: 01 - 454 5464.



TRADE NEWS

## Wilo-Procomfort Home Heating Centre

The Wilo Home Heating Centre is a fully-packaged, self-contained unit cased in a surface-finished sheet metal housing. The electric power connection to the circulating pump and the control components is effected to a separate terminal strip. The front panel of the integrated controller is, for easy operation and automatic control, located at the front plate of the unit.

is a guide to capacity sizing and measures to carry out hydraulic balancing. The central heating must be installed with horizontal distribution, the cold water inlet to be directly connected to the unit. The unit should be installed in the immediate vicinity to the hot water draw-off points.

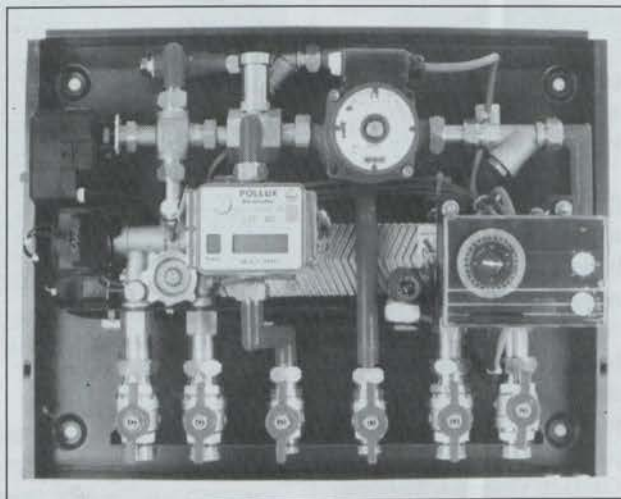
The ProComfort Home Heating Centre unit becomes the energy centre

counter which also offers the capability for remote logging of the measures values.

The ProComfort unit contains all function elements for connections to, and the automatic

control of, the secondary heating circuits and the domestic hot water supply.

Contact: Derek Elton, Wilo Engineering Ltd.  
Tel: 01 - 492 1080; Tony Cusack, Wilo Engineering.  
Tel: 061 - 410963.



Wilo-ProComfort Home Heating Centre ... with the front panel removed

The unit casing is easily removable, allowing optimum access for maintenance and repair work. The unit is normally installed directly at the bottom of the flow riser. Due to its neutral-coloured paint finish and its smooth surface, it is suitable for open installation in domestic areas.

Special planning guides are available for the use of the unit in conjunction with the existing building installations. The software

of flats, offices suites or for one-dwelling houses. It serves the central heating as well as the domestic hot water supply by instantaneous heat exchange.

The heat source can be a locally installed gas or oil-fired boiler, but the unit can also be used as a heat transfer station from a remote heat supply (such as district heating). The accounting of the heat consumed is based on a heat exchange capacity

## Blue Circle to Sell its Heating Division

Blue Circle Industries plc has announced that it intends to sell its Heating Division, which includes Irish companies Potterton Myson (Irl) Ltd and Myson Heating Controls Ltd. Speaking about this decision, the Chief Executive of Blue Circle Industries plc, Rick Haythornthwaite, said it is being sold for strategic reasons.

He believes that the trend in the heating industry, as with other industries today, is to engage in consolidation. "Globalisation" and political and economic integration within Europe has meant that it is no longer sufficient to be the biggest in national markets. Nowadays, you also have to be a major European player.

With this in mind, Blue Circle has clearly reached a crossroads. In order to continue its success in the heating business, it would have to dramatically increase its investment in that division. While the same logic also applies to its cement division, it is Mr Haythornthwaite's view that there are more attractive opportunities in the cement business.

While there was a case for delaying the ultimate decision for some time, Haythornthwaite stressed that this would have prolonged the uncertainty surrounding the future of Blue Circle Heating, with adverse consequences for its performance.

The two Blue Circle Heating companies in Ireland - Potterton Myson (Irl) Ltd and Myson Heating Controls Ltd - both share the same Managing Director, Sean Hanratty. In welcoming this recent announcement, Mr Hanratty noted that the decisiveness of the new Blue Circle Chief Executive would end a period of uncertainty regarding Blue Circle's plans for its heating division.

Mr Hanratty also stressed that these new developments would not distract Potterton Myson Ireland or Myson Heating Controls from continuing to give their customers a first class service.





et al.: BS News

**CYLON**

# unitron

experience

tomorrow's

control

# today

With a controls range spanning 8 to 24 points, a flexible three layer network, and a choice of display interfaces, unitron's modular expandable design delivers outstanding control solutions on projects of all sizes. For a brochure or further information please contact Cylon today on 01 8366626.



## Transportable Fixed Thermal Imager

Versatility is the keynote of LAND Infrared's new FTI 6 thermal imager from Manotherm. It is a fixed system that can also be transported around the plant for short-term temperature monitoring duties.

With a measurement range of -20 to 2000°C, the FTI 6 is custom-designed for real-time thermal imaging of process plant, products during manufacture, buildings and electrical installations, even in hostile environments.

The spectrum of applications is as wide as the capability of the imager itself. It includes checking the condition of steel ladle linings, confirming the integrity of manufacturing processes; quality control of all kinds of products from heat exchangers to X-ray film; surveillance of highly-combustible materials during storage; and monitoring waste

disposal sites for underground fires.

Sealed inside a robust cast aluminium housing, the FTI6 uses the latest focal plane array technology to produce a 256 x 256 thermal image. It also has an integral video camera so that conventional and thermal images can be viewed separately or in combination.

Special features include automatic storage of images on receipt of an alarm signal, and the facility to add a brief identifying audio commentary when the imager is being used at different locations.

The FTI 6 can be remotely controlled through a digital communication link from any IBM-compatible PC, or – in conjunction with a monitor – by an optional remote control keypad. In both cases up to 16



Land Infrared's new FTI 6 thermal imager from Manotherm

thermal images can be handled simultaneously.

As well as controlling all parameters of the FTI 6 thermal imager and ancillary equipment, the accompanying Windows®-compatible LIPS F software provides full on-line thermal analysis, including points, areas, isotherms, histograms, profiles and alarm thresholds.

Image file management includes a print facility, and full-colour image

processing offers a choice of five palettes, zoom and noise filtering. Colour thermal reports can be produced, edited and printed in minutes using the Report Writer facility.

LIPS F also allows the imager to be controlled from other applications via OLE, and can use DDE to exchange data with other Windows® programs.

Contact: Bob Gilbert/Brian Harris, Manotherm. Tel: 01 - 452 2355.

## Training Industrial Boiler Operators

The ESB Training Services is running Module 1 of the Industrial Boiler Operators Development Programme at its Training Centre in Pigeon House Road, Ringsend, Dublin 4 on 27 & 28 September with repeat runs on 25 & 26 October, and again on 29 & 30 November.

To reserve places for any of the above contact Adrian Carroll, Programme Co-ordinator at Tel: 01 - 637 5625; Fax: 01 - 668 6812.

The ESB also offers a full range of training services including Supervisory/Management training; Business Strategy Development; Training Needs Analysis; Mechanical & Electrical Operations; and Maintenance Training. Most programmes are run at the ESB Training Centres, or at any location suitable to the client.

## Linea Max "Delivers 55% More"

The Linea Max floor-standing combi boiler is the latest model in Vokera's Linea range. Combining a 58-litre "thermal store" with the normal operation of a combi, the Linea Max is combined to deliver 55% more hot water than combis with equivalent outputs.

The hot water flow rate of the Linea Max is 18 litres per minute at a temperature rise of 35°C

until the thermal store is depleted, after which the continual running flow rate is the same as its sister product, the Linea 28. Alternatively, if the tap is turned off for approximately five minutes, the thermal store will be replenished and the boiler resumes its full performance of 18 litres per minute.

Providing a maximum output of 28.9kW, the Linea Max has a height of 870mm, a width of 600mm, and depth of 585mm and combines power and performance with the stylish design that





Meeting the hot water needs of larger homes: Vokèra's latest addition to its combi range is the Linea Max.

is characteristic of the Linea range.

Technical benefits include:-

- Unique pre-plumbed "slide-in" system for easy installation;
- Built-in filling loop which removes need for installers to purchase additional part;
- Comprehensive fault-diagnostic display able to identify up to six modes;
- Simple "plug in" timeclock operation saves installers unnecessary hassle and time;
- Built-in frost protection ensures no risk of damage to appliance or property;
- Versatile flueing system enables Linea Max to be installed almost anywhere.

In addition, the Linea Max incorporates the following energy-efficient features - Hot water pre-heat cycle which guarantees truly instant hot water delivery; anti-cycle device which prevents wasteful on/off

firing; and electronic ignition.

Contact: Paddy Scriven, General Manager, Vokèra (Ireland). Tel: 056 - 55055.

## IMI - 'Copper Tube Market Leader'

Irish Metal Industries, the established market leader of over 50 years standing, carries an extensive stockholding at its premises in Stillorgan, Co Dublin, to ensure "off-the-shelf" availability of all requirements.

Among the benefits offered are:-

- ❑ 25-years guarantee on all copper;
- ❑ All products to standard specifications of IS 238:1980 and BS 2871:1:1971;
- ❑ Copper tube manufactured to quality standards I.S./ISO 9002/EN 29002 and BS 5750;
- ❑ A complete range of copper tube in the widest range of sizes and special coatings.

Contact: Connor Lennon, Irish Metal Industries.  
Tel: 01 - 295 2344.



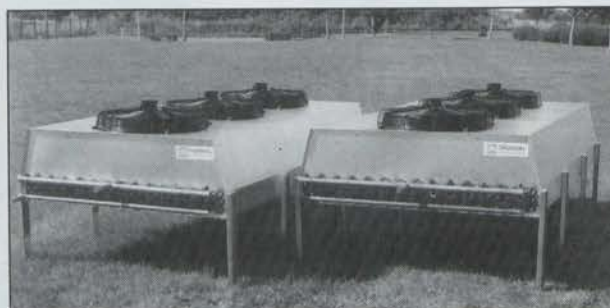
Copper tube from IMI.

## Thermal Heat Exchangers - The Experienced Performer

Thermal Heat Exchangers (Irl) Ltd is one of Europe's leaders in heat exchange technology, with access to the most advanced thermodynamic know-how and manufacturing expertise. Its production facility in Drogheda is staffed by highly-qualified

and experienced personnel who manufacture finned coil heat exchangers as heaters, coolers, condensers, evaporators and equipment for waste heat recovery.

Among the latest product introductions from thermal is the new Eurovent-Certified range of air-cooled



The AV/H6 - one of six series types in the new range of certified air-cooled condensers and dry-air liquid coolers from Thermal Heat Exchangers

condensers and dry-air liquid coolers. There are six complete series of type AV/H5; AV/H6; AV/H9:

- The AV/H5 featuring a capacity from 9 - 191kw;
- The AV/H6 featuring a capacity from 15 - 156kw;
- The AV/H9 featuring a capacity from 60 - 1000kw;
- The AV/H5 is available in 1 - 6 fan models;
- The AV/H6 is available in 1 - 3 fan models;
- The AV/H9 is available in 1 - 10 fan models.

Each fan section is individually partitioned with specially-designed casing protected by a weather-proof finish. The units comprise 2-speed external fan motors with enhanced low-sound pressure levels.

Contact: Martin Winters, Sales Manager, Thermal.  
Tel: 041 - 9831051;  
Fax: 041 - 9832117.





## "Touchless" Bathroom Saves Water, Enhances Design & Maximises Space

**G**roheDAL is recognised worldwide as one of the leading innovators in respect of the intelligent bathroom, constantly at the forefront with the regular introduction of everything from taps through to showers and flushing systems which incorporate advanced, electronic, touchless controls. Grohe too is a world-renowned name with an equally well established reputation and high market standing.

It is hardly surprising then that the acquisition of DAL by Grohe has led to a new competence and a new way of thinking in respect of water technology and water saving. GroheDAL is now the undisputed world market leader for reliability, quality, technical excellence, water conservation and value-for-money.

This was the message impressed upon the many architects, consulting engineers, contractors, merchants and trade counter staff who attended the GroheDAL launch over a 2-day special presentation in the Stakis Hotel in Dublin recently held by Irish distributors PHD.

The product presentations and displays focussed quite firmly on the many benefits GroheDAL taps, flushing systems and Grohe Showers offer in relation to water savings. These include

savings on installation time; simple operation; aesthetic finishes; increased performance; and excellent utilisation of space.

The range is expansive with a myriad of designs intended specifically to serve the needs of all manner of applications, be it commercial, industrial or domestic.

### The benefits of the new DAL-RAPID "S"



1. Universal for individual and rail mounting
2. Infinite adjustment of depth from the front
3. Surface protection foil/galvanised
4. On-site adjustment of all cross-members on vertical rails
5. Fixing points for inlet and waste outlet components
6. Adjustment of all horizontal cross-members from the front
7. Simple installation of outlet waste bend
8. 200mm height adjustment/quick adjustment
9. Sound-proofing in accordance with DIN 4109 through insulated fittings and pipe brackets

### Additional advantages with the wash basin element:

10. Inlet supply cross-members are noise-insulated
11. Adjustable supply connectors are flush with front edge of cladding
12. Waste trap can be retrofitted
13. Height setting secured from the front

The DAL-RAPID "S" is a complete system for all sanitary fittings: for WC, wash basin, urinal, bidet, shower and bath. In a range of construction heights: 1.20m, 1.00m, 0.82m or 2.60m.

All are based on the unique DAL-RAPID "S" which is a universal system for almost all types of installation: elements can be installed individually or in series using rails.

Above all, DAL-RAPID "S" is an extremely quick system to install – out of the packaging and directly onto the wall. Individual WC installation in only 25 minutes, row assembly of the wash basin elements in only 19 minutes. then line them up – and the job is completed.

The potential savings using GroheDAL products are phenomenal, a typical example being illustrated in Table A.

PHD Director Darragh Callaghan told *BSNews*: "The Touchless Bathroom for the 21st Century was the theme for the event, and it was set against the proposed new water regulations which will impose exacting requirements on all water users. While the timescale for regulatory compliance is still a way off, it



David Doust, GroheDAL, making his presentation to the assembled audience during the presentation in the Stakis Hotel. Seated facing the camera is Ian Goymer, also from GroheDAL, who made the other presentation



# GROHEDAL®



Grohmaster Grohsafe ev – Exposed pressure balance valve; Relexa Plus exquisit shower set, chrome



Custom-made display showing the internal workings of the DAL-RAPID "S" system

was obvious from those we spoke to over the two days that the industry at large is very much aware of the need for a fresh approach to water usage and conservation. However, it was also obvious that there is a great educational need on the matter, with many looking to companies such as GroheDAL and ourselves at PHD for leadership.

"To this end we have devised a combined roadshow and educational programme which we will take to the major population centres such as Cork, Limerick, Galway, etc. In the meantime, those who wish to know more about GroheDAL water-saving products can contact us directly at PHD."



Tectron infra-red basin tap for pre-mixed supplies

**Table A**

## Water Saving Comparison

	UK syphon cistern 7.5 L (no dual flush)	DAL cistern 6L/3L (dual flush)
Per day	150L	72L
Per year	54,750L	26,280 L
<b>Water saving per day</b>		<b>78L</b>

**Water consumption based upon comparing a family of four flushing five times a day – 1 full flush and 4 reduced flushes.**



Unit 1 Glenview Industrial Estate,  
Herberton Road, Rialto, Dublin 12.  
Tel: 01 - 454 5532;  
Fax: 01 - 454 5529



## T R A D E   N E W S

**Working Together for Children's Hour**

The organisers of Children's Hour – Ireland's biggest ever funding project – are asking everyone in the workforce to

donate the value of their final hour's earnings of this millennium to benefit over 100 children's charities. All funds will be handed over to the charities, with no administrative or other cost reductions. Pictured are: John Hynes, Deputy Chairman, Children's Hour; Tom Rowley, Millennium Committee; and Bill Cullen, Chairman Children's Hour.

Contact: Children's Hour Information Tel: 1850 311299.

**Protect Fluids from Moisture**

Orthos Engineering Ireland has introduced a Brownell Drum Vent Dryer for 205-litre drums, which will absorb any water vapour drawn into a drum during filling and emptying, and will protect the fluid until the absorber is exhausted.

Water vapour adsorption characteristics of fluid is usually well known by fluids manufacturers and they try to ensure that the moisture content is controlled. Fluid can however be easily contaminated with water, especially in transit or tank emptying, which can affect viscosity, density and chemical stability.

The Drum Vent Dryer contains active adsorbent which changes colour when exhausted, and can be easily replaced or re-activated. A clear plastic body tube allows the operator to monitor adsorbent condition.

Brownell's drum vent dryers also prevent escape of odour, pressure build up in the drum, and has some capacity as a flame-arrestor in preventing vapour loss. The units are available in a wide range of sizes and have been designed to operate in harsh environments.

Contact: Paul Kane, Orthos Engineering.  
Tel: 01 - 280 4839.

**CIBSE 1999/2000 Programme of Events**

Full details of events will be advised to members of Republic of Ireland Branch prior to each meeting. Members outside the region may contact the Hon Secretary for details.

Subject	Date	Venue
Y2K compliance for building services systems (Technical evening) .....	23 September	IEI, 22 Clyde Road
Students essay Competition Presentation .....	12 October	Cork
Mentoring and routes to membership (Technical evening) .....	14 October	IEI, 22 Clyde Road
Design of medium voltage distribution systems (CPD Seminar) .....	3 November	
Heating system control design (CPD Seminar) .....	10 November	
Why engineers make the best philosophers (Joint technical evening with IEI) .....	18 November	IEI, 22 Clyde Road
Celebrity Lunch (further details to be advised) .....	3 December	
Building services in hospitals (Technical evening) .....	20 January 2000	IEI, 22 Clyde Road
Selection of commercial offices at CHDD (Site visit) .....	4 February	
Millennium Ball .....	4 February	Burlington Hotel, Dublin
Information technology in buildings .....	15 February	Cork
Education BS engineers in the new millennium (Technical evening) ...	17 February	IEI, 22 Clyde Road
Simulation assisted HVAC control research (Technical evening) .....	23 March	IEI, 22 Clyde Road
Annual General Meeting .....	13 April	

Hon Secretary: Margaret Dolan, VMRA, Tramway House, Dartry Road, Dublin 6.  
Tel: 01 - 497 5716; Fax: 01 - 497 5886; eMail: user23a@tramway.ie

**Notes:**

All Dublin technical evenings shall be held in IEI, 22 Clyde Road.

Sessional meetings are credited with 1½ Hour CPD, and 6 hours for a full day





## Sinclair Cast-Iron Drainage and Rainwater Systems

Ensign: cast iron drainage – The Sinclair Ensign cast iron soil and waste system was launched in 1991 and has already become the market leader in the UK. Designed as a lightweight, cost-effective, European drainage system, Ensign is also rapidly establishing itself in worldwide markets.

Ensign offers all the advantages associated with cast iron – strength, durability, long life, fire resistance and sound deadening. It is also 100% recyclable, a factor which has become increasingly important as the construction industry looks towards environmentally-responsible building materials.

Jointing of Ensign pipework is easily achieved through ductile iron

couplings. The system features an extensive range of access fittings and economical connections to waste pipes, including a multi-waste manifold which simplifies waste plumbing by grouping all associated pipework from various sources such as sinks, basins, bidets, urinals and showers to one internal point above the finished floor level.

Ensign is tested and approved by the British Board of Agrément (Certificate No 95/3125), is manufactured under a BS EN ISO 9002 registered scheme of quality assurance, and has been designed in accordance with the new European standards prEN877. It is also approved to DIN 19522 and meets the requirements



A wide range of gutter profiles and fittings is available for Sinclair Classical cast iron rainwater systems. Details from PVF.

of ISO 6594, the international standard for socketless drainage systems in cast iron.

Ensign has been used in a wide range of prestigious buildings in Ireland including the Intel factory in Co Kildare; the Pavilion, Dun Laoghaire; the Plaza Shopping Centre, Swords; the Cravat Office Block, Dublin Docks; and the Stakis Hotel in Dublin.

Classical: Cast Iron Rainwater – The material benefits of cast iron rainwater systems have long been recognised. For more than 150 years cast iron has been providing a character and durability that no other material can match. For over 100 of those years, Sinclair Foundry Products have been manufacturing cast iron rainwater systems.

Classical is the name given to Sinclair's current rainwater system and it embodies all the qualities associated with cast iron.

The life span afforded by cast iron – typically in excess of 50 years – is one of the main reasons why it is still used as a rainwater material today. Cast iron is also widely renowned for its strength and ability to resist impact damage, either

accidental or intentional, while its rigidity prevents gutters and downpipes rattling in high winds.

Heavy snowfalls, which can cause gutters manufactured from other materials to buckle, poses no problem to a cast iron system and, as a dense material, cast iron offers sound-deadening properties to eradicate the problem of irritating noises generated by running or dripping water.

The increased awareness of the environmental impact of building materials has also led to a resurgence in interest ... cast iron is 100% recyclable.

Aesthetic appeal is also a reason often cited for choosing a cast iron rainwater system. If replacement products or extensions to a system are required, the range of gutter profiles available in the Classical system ensures that connections to existing systems are usually relatively simple.

Both the Ensign and Classical systems are available through Dublin-based PVF (Pipes, Valves & Fittings Ltd).

Contact: PVF (Pipes, Valves & Fittings) Ltd, Burden House, Cloverhill Industrial Estate, Clondalkin, Dublin 22. Tel: 01 - 457 3900; Fax: 01 - 457 3863.

Left: Sinclair Ensign cast iron drainage system from PVF.











**wavin**

**The Cutting Edge in pipe systems**



## Aquaforce Watermain Pressure Pipe

### Pipelines for the 21st Century

Aquaforce is the flagship of a wide range of pipes and fittings which are manufactured for the water and construction industries by Uniplas. Uniplas was founded in the early sixties under the name Unidare.

Uniplas takes pride in both quality of product and service, and has had quality accreditation to BS 5750 since 1982. Today,

quality products are maintained by manufacturing to BS EN ISO 9002.

Aquaforce, produced to BSI PAS 27, is a high-technology product which has found a rapid acceptance with many utilities. It has been manufactured in order to alleviate the problems which beset some of the



Aquaforce PVC-A – The new generation of pipelines from Uniplas



Aquaforce from Uniplas offers high ductility and shatter resistance. Left: Aquaforce; Right: Conventional uPVC.

older grades of PVC pipe, such as shattering due to inherently low values of toughness. Aquaforce is manufactured from an alloy of CPE impact modifier which gives the pipe its exceptional toughness, even at low temperatures. The PVC ensures that the traditionally high strength values of PVC are maintained. However, Aquaforce is virtually unaffected by the presence of surface notches and scores, which was the Achilles heel of conventional PVC pipes.

Prior to any Aquaforce being sold in the marketplace, PVC-A pipe was subjected to several million pounds of rigorous testing and development.

In fact, independent experts claim that no pipe has been as thoroughly tested prior to its launch.

Aquaforce is available in the following sizes – 110, 160, 200, 250, 315, 400 mm and the following pressure ratings – 8, 10, 12.5, 16 bar. The extensive pipe range is further complemented by a range of 92 post-formed bends, available in a choice of four angles for all pipe sizes. Aquaforce also has full compatibility with conventional metric-sized PVC pipes and is available for the irrigation and dirty water sectors.

Contact: Uniplas Ireland Ltd, Jamestown Business Park, Finglas, Dublin 11. Tel: 01 - 677 1148; Fax: 01 - 834 6419. ■



## Wavin Receives Irish Agrément Certificate for New Plumbing and Heating Product

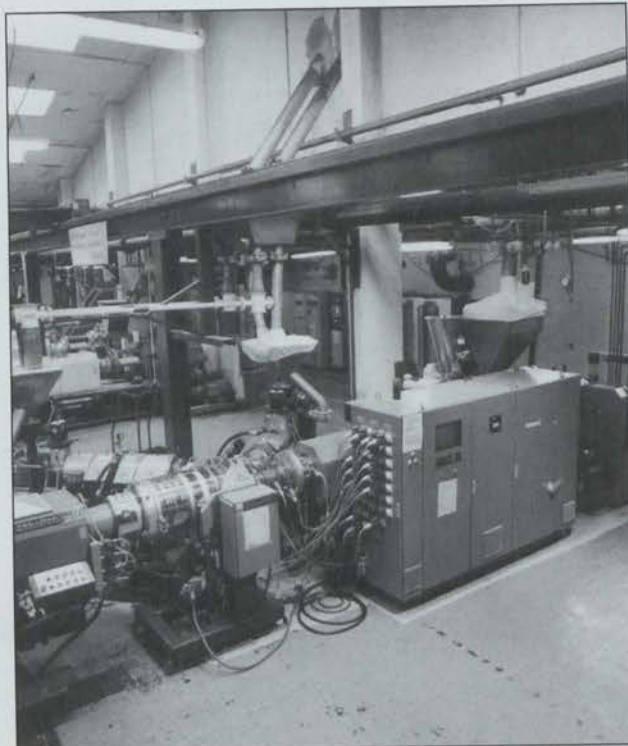
Wavin has received an Irish Agrément Certificate for a new plumbing and heating pipe product due on the market this Autumn. The Certificate has been awarded following intensive testing. Wavin has worked closely with the Irish Agrément Board which operates within the National Standards Authority of Ireland to ensure that the new product fully conforms with the Irish Building Regulations.

The new product will be known as Wavin Tigris Plumbing and Heating. It will bring a brand new

range of hot and cold pipe to the Irish market. Wavin Tigris is a high-density cross-linked polyethylene pipe for central heating and tap water applications.

It will be manufactured to Irish dimensions and will far exceed the European requirements for high temperature plastic plumbing pipe.

Tigris is an important addition to the Wavin product range and brings the number of Wavin products available to meet the needs of its customers to close on 3000. It confirms Wavin's determination to remain



A section of the modern Wavin production plant at Balbriggan.

the leading plastic pipe manufacturer and distributor in Ireland.

Wavin products are found above and below ground on projects throughout



# Sinclair Classical

## No need to compromise

*Why settle for imitation systems when cast iron offers so much more...*



Superior strength, longevity and aesthetic appeal. Cast iron rainwater systems have long been appreciated for their inherent properties. No other material can match the character or durability it brings to any building, old or new.

Classical is a cast iron range which retains the traditional appeal, yet is **superior in every way:**

- **COST-EFFECTIVE** against cast aluminium
- The only cast iron system with **BBA approval**
- Suitable for **any style** of building
- Available from builders' merchants - nationwide
- **Choice** of 7 gutter profiles, with both round and rectangular pipes
- **LASTS** the life of the building



**P V F**

Pipes, Valves & Fittings Ltd.  
Burden House, Cloverhill Industrial Estate,  
Clondalkin, Dublin 22.  
Tel: 01 4573900. Fax: 01 4573863.  
Email: pvf@tinet.ie

Cast Iron Rainwater Systems







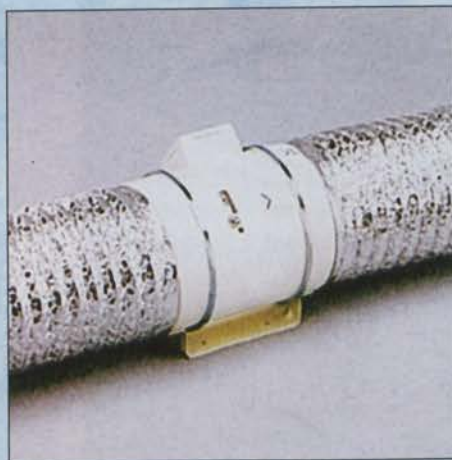
Compact Series. Airflow from 500 – 22400m<sup>3</sup>/h  
General ventilation



Compact portable series. Airflow from 2250 – 16450 m<sup>3</sup>/h. Personnel cooling, drying installations, work areas etc



HDT series. Flameproof axial fans. Type Eexd IIBT5 or Eexd IICT4 motors. Airflow from 100 – 13000 m<sup>3</sup>/h



Mixvent system series. Airflow from 130 – 1990m<sup>3</sup>/h. Designed to solve Ventilation problems requiring ducting



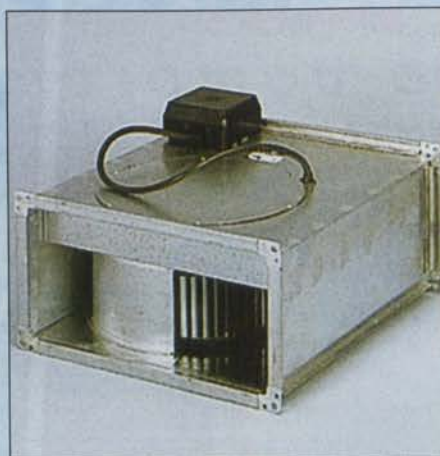
Mixvent TH roof units. Airflow from 380 – 1725 m<sup>3</sup>/h. Supply or extract systems



Max-temp series. Centrifugal roof extract units for commercial kitchens and smoke extraction systems. 400 deg. 4 hr rated. Airflow from 500 – 22000 m<sup>3</sup>/h



HCTB-HCTT Series. Axial roof fans. Airflow from 1500 – 14180 m<sup>3</sup>/h



Direct-air series. Centrifugal in-line fans for rectangular ducting. Airflow from 1100 – 10235 m<sup>3</sup>/h



CKB series. Powerful centralised ventilation for dwelling houses. Airflow from 600 – 2000 m<sup>3</sup>/h

# VENTAC

*\* Air Management Engineers \**





*\* Air Management Engineers \**



**Very often,  
the success  
of your project**

**is up in the air**

**Ventac & Company Ltd, 11 Fitzwilliam Quay, Ringsend, Dublin 4.**

Published by ARROW@TU Dublin, 1999  
Tel: 01 - 667 1077; Fax: 01 - 667 1055; Email: [vent@iol.ie](mailto:vent@iol.ie)



# BSNews

## NEXT MONTH

**Chimneys  
& Flues**

**Radiators**

Ireland, North and South.

Since it began production in Ireland in 1958 Wavin has been consistently leading the way in providing solutions for specifiers and contractors in the building and construction industry.

Wavin's success can be attributed to a combination of factors. A commitment to research and development; a committed workforce; manufacturing to the highest quality standards; and supporting products with strong marketing and customer service.

Meeting the highest technical standards and providing technical solutions has been a hallmark of Wavin's development. It has more Irish and BS Standards for its products than any other company in the industry. To ensure conformity, all Wavin products are tested to levels in excess of the required standards.

In addition to providing highly-engineered and tested products, a service support programme for specifiers and customers is a key element of the Wavin package. This support programme includes the availability of technical advice and training. The purpose-built Wavin Information Centre in Balbriggan is used to provide information on the latest in pvc pipe technology, and for viewing the extensive range of Wavin products.

All Wavin systems are environmentally safe and are engineered for maximum strength and ease of installation.

Contact: Patrick Atkinson, Wavin.  
Tel: 01 - 841 5000.

## MFP: Innovative Underground Drainage Solutions

With years of expertise and experience in the development and manufacture of PVC-u drainage systems, MFP Sales Ltd (Lucan) claims to be the leading supplier of quality piping products to Ireland's construction industry.

programme to find the optimum plastic material for use in underground drainage systems. The result: quantum technology, marketed in Ireland by MFP.

**Strong, efficient ... and light**

Quantum technology is a



MFP Sales' Quantum technology is a PVC-u twin-wall manufacturing process combining corrugated outer wall with a smooth inner bore to give strength, hydraulic efficiency, and lighter weight than comparable products.

The company's comprehensive range of rainwater, soil waste and underground drainage systems – all conforming to the relevant national standards – provide drainage suitable for all types of buildings. Domestic, industrial, commercial, public ... MFP can meet all the drainage demands of modern construction with innovative, technology-driven solutions.

### Quantum Technology

A typical case in point is Quantum. Several years ago Marley Extrusions embarked on an extensive research and development

PVC-u twin-wall manufacturing process combining a corrugated outer wall with a smooth inner bore to give strength, hydraulic efficiency and lighter weight than comparable products.

Thoroughly tried and tested, Quantum has been awarded the Water Industry Product Assessment Mark of approval and the BS EN 29002 qualification.

Two versions of quantum are available: one for highway drainage, one for adoptable sewers.

Contact: MFP Sales.  
Tel: 01 - 628 0696;  
Fax: 01 - 628 1119. ■





**High Ductility**



**Full Bend Range available**

WIS 4-31-06 compatible

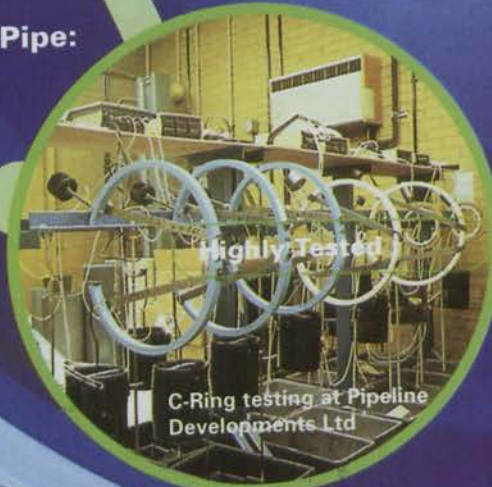


**Light Weight**



**Comparatively Large Bore Area**

**AQUAFORCE Pipe:**  
(main picture)



**Highly Tested**

C-Ring testing at Pipeline Developments Ltd



**Easy Push Socket Installation**



PIPEWORK, DRAINAGE AND RAINWATER

## Multikwik Solution to Difficult Pipe Connections

Making a connection to a broken drainage pipe, particularly if it is located underground, can be a real problem, especially if the pipe is really fragile. Indeed, if the pipe is made from clay, it is easy to do more harm than good when trying to effect a connection. In any case, difficult connections such as these, can involve a substantial amount of time and effort.

Now, leading WC pan-connector manufacturer Multikwik has launched the ideal solution, the new Universal Pipe Connector (MKEP110). Quick and

easy-to-use, the Universal Pipe Connector provides a perfect push-fit connection with any pipe in a fixed position with an inside dimension of between 99mm and 105mm. This includes clay pipes, uPVC underground or soil pipes, cast iron pipes and Timesaver cast iron pipes.

By inserting the end of the Universal Pipe Connector into the inside of the fixed pipe, a new 110mm plastic pipe can be connected using a slip collar. Thanks to Multikwik's established push-fit design and high-performance elastomeric seal, the flexible polypropylene Universal Pipe Connector effects a permanent water and air tight connection.

Contact: MFP Sales.  
Tel: 01 - 628 0696;  
Fax: 01 - 628 1119.



Multikwik's new Universal Pipe Connector (MKEP110) from MFP Sales.

# Sinclair Ensign

## Its changed. Have you?

It might not have made the headlines, but Sinclair Ensign has revolutionised perceptions of cast iron drainage systems.

Combining the unbeatable strength of cast iron with lighter weight, quicker installation and lower material and labour costs, epoxy coated Ensign makes cast iron drainage a viable option again - especially when it's chemical resistance, the full, long-term costs of fireproofing, maintenance and possible system failure of lesser materials are taken into account.

- Recent Projects:
- Pavilion, Dun Laoghaire
  - Plaza Shopping Centre, Swords
  - Cravat Office Block, Dublin Docks
  - Intel Factory
  - Stakis Hotel, Dublin



**P V F**

Pipes, Valves & Fittings Ltd.  
Burden House,  
Cloverhill Industrial Estate,  
Clondalkin, Dublin 22.  
Tel: 01 4573900. Fax: 01 4573863.  
Email: pvf@tinet.ie



# The sculpted lines of EAVEMASTER and CLASSIC offer THE PERFECT COMBINATION.



## EAVEMASTER

Is a competitively priced complete PVCu Fascia/Soffit system designed for easy installation. It is maintenance free, totally weatherproof and will enhance the appearance of any building.

## CLASSIC PVCu

Is an elegant, ogee style rainwater system which offers a choice of circular or square downpipes. It makes the ideal choice when appearance, performance and capacity is required.

**MFP** The clear choice

Lucan, Co. Dublin. Tel: (01) 6280696. Fax: (01) 6281119. Email: sales@mfp.ie

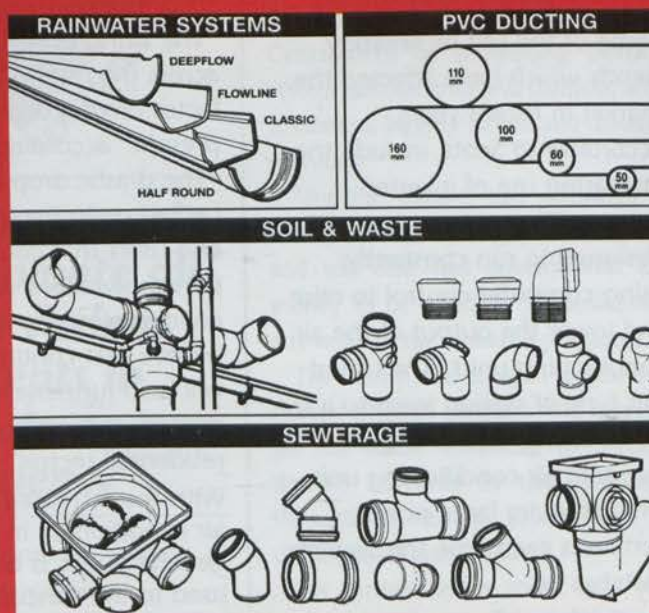
# Proven Quality Assured Value

Developed and manufactured right here in Ireland, MFP Drainage Systems are the obvious choice for experts. As one of the most cost effective, professional systems around, quality and value are guaranteed when you choose MFP.

The comprehensive range of products from MFP conforms to national and international standards.



## MFP DRAINAGE SYSTEMS



The clear choice



# Price Cuts Drive European AC Market

A new report\* by Frost & Sullivan, the international marketing consultancy company, concludes that the development of the residential and light commercial air conditioning equipment market throughout Europe is primarily driven by price cuts.

Phillip Scott, Research Analyst at Frost & Sullivan, says: "The European market for residential and light commercial air conditioning was valued at US\$2.8 billion in 1998. It is a

technology, with aspects such as the abolition of R22 providing the primary focus of R&D investment".

Increasing market growth has been detected in the split and multi-split markets throughout the forecast period, partly owing to the implementation of market acquisition and consolidation strategies. In addition, the industry has been overcoming the problems associated with mature markets and low prices through changes in legislation,

and retail outlets. Overall, the public is now more used to living in an air conditioned environment than ever before.

The increasing use of electrical appliances in offices is raising the ambient temperature in offices. The desire for a comfortable working environment in offices has led to more and more companies obtaining air conditioning for all offices in their buildings.

As more and more new office buildings are fitted with air conditioning, many older commercial buildings are now being retrofitted with air conditioning units. This trend is forecast to continue, as air conditioning becomes an accepted part of office life.

Frost & Sullivan's study reports that, in addition to the price cuts aiding the opening of the market, the increasing exposure to air conditioning rising internal load, and the buoyancy of the retrofit market, will drive revenues to US\$2.84 billion in 2005.

One of the most significant market events in recent years has been the alliance between the Carrier Corporation and the Toshiba Corporation. From 1 April 1999, a strategic alliance in the heating, ventilation, air conditioning and refrigeration industry was formed by these two global market players.

\* Report Code: 3727 – The European Market for Residential and Light Commercial Air Conditioning Equipment, was published this month. Copies are now available from Frost & Sullivan. For details of cost, payment methods, etc, contact Tel: 0044 171 915 7824; Website: [www.frost.com](http://www.frost.com)

## Toshiba and Carrier 'Global Alliance'

Toshiba Corporation has signed a "memorandum of understanding" with the intent of forming a global alliance with Carrier

Corporation, the world's largest manufacturer of air conditioning equipment systems.

From BSNews September 1998

highly-competitive market with increasing pressure on prices and products as companies seek to obtain a greater market share".

Some of the key technology trends which have affected the market in recent years, according to Scott, include the increasing use of inverter systems. The systems are designed to run constantly, using computer control to raise and lower the output of the air conditioning units. The use of this type of system leads to a far lower energy demand than standard air conditioning units, which require large power demands each time the system switches on.

"In the future", says Scott, "product development is likely to focus on refrigerant

broader product ranges, improvements in research and development, and in current technology.

"The string of recent price cuts across the market is the primary factor driving unit sales at present" according to Scott.

"The drastic drop in prices has helped open the market to new end-users that could not previously afford air conditioning. Frost & Sullivan believe that continued price cuts will help further expand this market, particularly in the residential sector".

With the increased availability of air conditioning in cars, the general public is becoming more used to the concept of air conditioning. This is into the commercial environment, particularly in hotels, restaurants



# A Commercial Opportunity for Suppliers

**E**nergy Awareness Week is upon us once more. The week, which will run from 19 to 25 September is the single most important platform for promoting energy efficiency in Ireland. For many, the week is seen simply as an opportunity for consumers to avail of special offers on energy-efficiency products and services. However, it is in this significantly-increased demand that lies the substantial commercial opportunity for suppliers.

"We are particularly keen to see wider participation by the services industries such as heating contractors whose involvement could include promotion of heating controls and regular heating system maintenance on the basis of greater efficiency and greater reliability", says Tom Halpin, Marketing Executive, Irish Energy Centre.

"The Centre can support these activities through the provision of the logo for inclusion in approved promotions, point-of-sale material for retail outlets and showrooms, and leaflets for distribution".

In 1998 consumers invested £2.7 million in energy efficiency, resulting in annual savings of £1.8 million. An additional and equally-important benefit is the associated reduction in CO<sub>2</sub> emissions of 19.5k tonnes, contributing to Ireland's overall target demands under the Kyoto protocol.

Energy Awareness Week is co-ordinated by the Irish Energy Centre on behalf of the Minister of State at the Department of Public Enterprise. The Centre is an EU-funded initiative with a mission to promote the development of a sustainable national energy

economy. The two key objectives of the week are to give consumers an appreciation of how actions in respect of energy efficiency can play a part in sustainable development and, in turn, to stimulate investment in energy efficiency and improved consumer behaviour in respect of energy.

The Centre's role is to promote all of the various concepts in relation to energy efficiency so that they can make more informed choices in their purchases. Suppliers promoting their goods and services at the same time and, where appropriate, utilising the Energy Awareness Week logo, can

overall effectiveness of the campaign. In 1998 sales of CFLs over the period of the promotion reached a staggering 238,000 units versus average sales over a similar period of 50,000 units. This represents a 370% increase in sales.

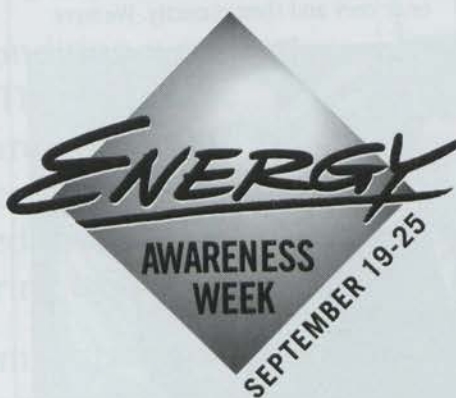
"This year the Centre has developed a new strategy based on our past experiences and close dialogue with suppliers across various product and service areas", said Tom. "Firstly, the centre is engaging in a longer-term, Autumn promotion of energy efficiency that now embraces more products than before. This has already started with a four-month TV campaign promoting energy-efficient household appliances. In doing this we are endeavouring to influence peoples' decisions over a protracted period of time".

A second strand to the campaign is the "Think Warm Thoughts" radio and press campaign where, for a period from September to November, the Centre will be promoting heating system maintenance and controls, attic insulation, lagging jackets and draught proofing.

"For the Centre, this campaign is harder-hitting than in previous years and will deal very directly with the money to be saved by implementing any or all of the measures promoted".

The Centre is inviting all suppliers of energy efficient products and services for the home consumer to become directly involved in the campaign through advertising, price offers, or other special promotions.

For further details about how you can participate in Energy Awareness Week contact Tom Halpin, Irish Energy Centre. Tel: 01 - 808 2092.



***'The Centre's role is to promote all of the various concepts in relation to energy efficiency'***

expect to see significant impacts in their sales during this period.

According to Tom Halpin, compact fluorescent lamps or CFLs are somewhat of a benchmark for the



B U S I N E S S R E P O R T

# A View on Project Management

**P**roject Management for the Built Environment – sponsored by Equity Bank – and Adding Value to Facilities Management Through Benchmarking formed part of a series of construction-related seminars recently organised by the Faculty of the Built Environment, DIT.

The speaker line-up for both was exceptional, bringing together a panel of the world's leading experts in each of the relevant fields. Included were representatives from the main project management and facilities management organisations such as the Project Management Institute (PMI), the Association of Project Managers (APM), EuroFM, and leading members of the Facilities Management industry.

Rather than give a synopsis of each presentation, *BSNews* asked one of the speakers – Malachy Walsh\* – to give a personal overview of project management as a whole. This is his report.

While some are excited at the

Management is itself about the management of change, says Malachy.

In the years immediately preceding World War II the oil and chemical industries of America were devising ways and means of dealing with ever-vaster and increasingly-complex projects. The advent of war lent dramatic impetus to these developments as the urgent production of war materials, armaments, ships and planes stretched the tasks of managers beyond anything experienced before by mankind. Lending pressure upon pressure, the guns had to fire, the vehicles propel themselves, the planes to fly and submarines to submerge and surface at the will of their commanders. The deliverables of war had to work first time and every time. Mistakes incorporated in weaponry or equipment could mean death to their users.

The managers of those times too clearly realised that all of the myriad inherent tasks in this gigantic manufacturing effort had to be done once only and then correctly. We have

and communications have created their own intensification of pressures in the workplace.

Present tasks can be done so rapidly, almost on the very instant of "now", and it is demanded that they are so done, if not sooner. At the same time competition has increased dramatically in all commercial spheres. In parallel, margins are shrinking in an intimidating manner. More is being demanded for less. The very same "more" is also being required sooner. There is less time, while the task-load grows by the hour.

A project is a task that needs be completed within a definite time frame, within clear constraints of cost, while utilising people and predetermined resources. A project has a beginning and an end. Its life is short, in a relative sense. Each and every one of us executes projects almost every day of our lives, inside and outside of the work place. The housewife planning the week's shopping is project managing. So is the same woman while she is organising the next holiday. Many housewives are superb project managers. There is no mysterious magic. It is the use of common sense, or utilising "good practical sense in every-day affairs". This is the very foundation of the discipline of Project Management.

Whether we wish it or not we are all being forced to re-design our lives, a little bit here and another bit there. Sometimes we are hardly conscious of such change. Twenty-five years ago commuting was problematic in Dublin. It was a relatively new phenomenon. Today it affects living in all the cities and bigger towns of this small island country. It extends to the main arterial roads. Journeys need to be planned to avail of predictable "windows" in the traffic. There is no question of making up time on the road. We have to get up earlier in the morning, and we return home at a later hour than ever before.

In the workplace these pressures need to be met by careful planning, intensive managing, decisiveness and prompt execution. The customer wants your product now, and it must fulfil its intended function. If not, that customer



Project Management for the Built Environment – Richard Biggs, Chairman of Construction Industry Taskforce with John Finlay, Symonds Group UK and Kevin Beary, Head of Banking, Equity Bank Ltd.

prospect of Project Management, others deeply wish that it would go quietly away. Those practitioners involved in the discipline believe in it, are entirely convinced and work their projects by it. It would be extremely difficult for them to achieve their objectives otherwise. Adopting Project Management, however, implies change, and change in turn brings its own pressures, albeit temporary ones. Ironically, Project

come a long way from those fraught times. In a relative sense, the world is at peace, but trade and commerce between world economies make urgent demands also. However, there are different pressures dictating to our lives. Among other things, they stem from the computer and IT. Happenings in the workplace have accelerated beyond anything imaginable in the 1940's. This speeding up of work-related activities



**Thermal:**  
**The experienced performer**



## *Don't Play Second Fiddle*

Whether you want to air condition a concert hall or refrigerate a truck, Thermal is the partner you can trust. We are one of Europe's leaders in heat exchange technology with access to the most advanced thermodynamic know-how and manufacturing expertise.

Thermal Heat Exchangers, manufacturers of finned coil heat exchangers as heaters, coolers, condensers, evaporators and equipment for waste heat recovery as well as a newly launched range of air-cooled condensers and dry coolers AV/H 5 - AV/H 6 - AV/H 9



**Visit us at IKK, Essen, Stand 159 Hall 7**



**THERMAL**  
**Heat Exchanger Systems**

I.S. EN ISO 9001  
Registered Firm

Thermal Heat Exchangers (Irl.) Ltd, Newtown, Drogheda, Co Louth, Ireland  
Tel: +353 41 9831051 Fax: +353 41 9832117 Email: [thermal@indigo.ie](mailto:thermal@indigo.ie)  
(UK representative: Fin Coil Design and Sales, Tel: 01274 596035)

**Enter Enquiry No. 226**



## BUSINESS REPORT

is lost, and no amount of persuasion will cause he or she to return. Competition ensures that there are plenty of other hungry suppliers.

In my life, as a consulting engineer, I observed this pace of change, at times suffered by it, and did what I could to cope with it. Steadily, I became more and more concerned and frustrated at the manner by which projects were being handled and by the often unpredictability of their outcome. It was obvious that ever more order and organisation was needed merely to keep pace with standards of the past. However, at the same time clients were becoming more sophisticated, and their demands more stringent. They commenced demanding shorter delivery periods and absolutely predictable outcomes. At the same times they insisted that they would pay less. They were merely reacting to the new pressures in their particular worlds.

Delivering the designs was one part of the problem. Ensuring that their consequent constructions would be delivered both on time and quality was becoming more problematic. Contractors were facing their parallel difficulties. Controlling the multiple tasks in the design office was just possible most times. Attempting a measure of over-the-shoulder monitoring/managing with the contractor grew steadily more difficult. The contractor is the constructor. The constructed works are his responsibility. He has the requisite skills and resources to create those structures that comprise the built environment of today.

The sense of a void in all of this, nagged at my mind. It seemed to me that something was missing, but I could not put my finger on it. There had to be a better way, and that better way was desperately needed.

An unplanned sequence of events precipitated me into the world of Project Management. A new responsibility meant that I had to learn everything I could about this discipline in as short a time as possible. I was fortunate that the same events manifested a project management academic at the same table. A small group of people had to examine this discipline and determine

how it might be applied beneficially within a particular context.

Up to that time my view of Project Management was distorted by images of hard-hatted engineers posing before backgrounds of a vast and complex undertakings. PM appeared to be of another and very remote world, certainly far removed from the world of my problems. As this committee laboured at its task, gradually the realities of Project Management began to unfold. Engineering had no particular claim on it, neither had the construction world. I discovered that it is a generic discipline, and that its applications are endless. Also I learned about the intellectual tools that had been developed by the practitioners of project management and subsequently embellished by academics. A new world of management laid itself out before my mind.

As the months and years sped by, and the committee made progress, I could see that the void I had sensed could be filled. I asked questions of the patient academic. I read insistently, as time permitted. Eventually I satisfied myself that project management filled that abstract void of mine entirely. It fitted.

It is a system. It demands a systemic approach to tasks. Its procedures form a

Yes, learning the processes of project management demands efforts by all. Work practices need to be altered. New habits have to be acquired. A measure of unlearning is entailed. There is a cost. For a short period the learning curve is steep. Commitment is vital. The rewards are great.

Some will shrug and say "why bother". The trouble is that the "old ways" are no longer effective. The world is realising this. BS 6079 Project Management has appeared on the scene. Shortly it will become an ISO standard. The Quality Systems about us closely parallel Project Management, but they apply to long-life organisations. The advent of these systems is an expression of a broad realisation throughout the world that new managing ways are necessary for survival.

#### **\*Malachy Walsh, Chartered Engineer**

In 1995 Malachy Walsh retired from the consulting engineering practice which he founded in 1967. Prior to that he was joint proprietor of a practice for the previous 10 years. Before that he worked in the UK, Scotland, and in a consulting engineering practice in Dublin.

In the early sixties he designed and implemented a Quality Assurance system in his practice. This was a

forceful introduction to the concept of management systems. Before the procedures of this same system had been completed, he was asked to chair a committee of the Institution of Engineers of Ireland which was to investigate the promotion of Project Management among its

engineer members. This led, in time, to a considerable understanding and awareness of this formal discipline.

Arising from this coincidence of events, Malachy Walsh gained an appreciation of the striking parallels that exist between Quality Management (Quality Assurance) and Project Management. He read a paper on this topic to the Nordnet Project Management Conference in Reyjavik recently. He has also published a number of articles on the same topic and was one of the speakers at the recent Project Management Conference organised by the Faculty of the Built Environment, DIT.

### ***A project is a task that needs be completed within a definite time frame, within clear constraints of cost, while utilising people and predetermined resources***

process, which when followed by all involved on a task ensures timely delivery and a quality end-product. It creates a deliberate and measured approach to the task, planning comes before direct action, risks are measured, new efficiencies are attained, change is controlled, all the stakeholders in the project are involved from the outset and a team approach is engendered. The project managing is concentrated almost entirely on the early paperwork and planning stages, wherein all fundamental decisions are made. In the instance of construction the project managing is largely completed before any soil is turned on the site.



# Dan Chambers at City West

**T**he first of the Dan Chambers Ltd golf outings took place on Wednesday, 14 July at City West Golf Club. An ideal venue, the weather was perfect on the day with close on 50 people participating.

Special non-golfing guest poached from McGrattan was Ray Elliott. We waited all night for him to buy the wines but he did not ... obviously Dan does not have the Eamon-like charisma. Special non-golfing lady guest was Ann dooley of Winthrop ... a pity about Galway. Ann has made a half-promise to play next year.

Longest drive was Gerry McMahon of GMT, over the road on the Par 5 15th. Good man Gerry! Whatever happened to Hugh Byrne?

Adding style, grace and pomp to the occasion was Elm Park Captain Brian Andrews; From the motor industry, former rally driver Larry Mooney had 23 points on the back nine; while all the way from Rush, nearest the pin on the 17th, was Fintan Butterly.

Best lady on the day – up for the day from Wexford and mentor to Ciara Shanahan – was Susan Chambers.

Score-keeper for the day was the good-looking guy in the suit and the funny accent from Victoria Fans in Manchester. He had best gross for the day with 81 strokes. Well done Ian Grimsditch.

Recent graduate of the Mac Gregor Golf Academy, proponent of the 7-wood in all dangers and afflictions,



Photo 4: Dan Chambers and Steve Paskell with Eamonn McGrattan who took third place with 35 pts.



Photo 1: Overall winner with 37pts was Joe Warren of BSNews. He is seen here receiving his prize from Dan Chambers and Steve Paskell, Managing Director, Air Movement Group.

Photo 2: Dan Chambers and Steve Paskell with Jim Smith, Mercury Engineering, who took 5th place with a score of 32pts.



Photo 3: Steve Paskell and Dan Chambers with Frank Treacy, Lynskey Engineering, who was first, Back Nine, with 18pts.



Photo 5: The good-looking guy in the suit, Ian Grimsditch, Victoria Fans, with Dan Chambers. Apart from acting as score-keeper on the day, Ian also shot the best gross — 81 strokes.

Photo 6: Steve Paskell and Dan Chambers with Garvin Evans whose 18pts secured second, Back Nine.

and best net score for the day on 37 points, Joe Warren, BSNews. Good man Joe ... one way to get your picture in your own magazine!

Richard Ensor had a par and some fresh air shots while Bob Cuthbert started with a 12, then a 10, then a 13, and then his game fell asunder.

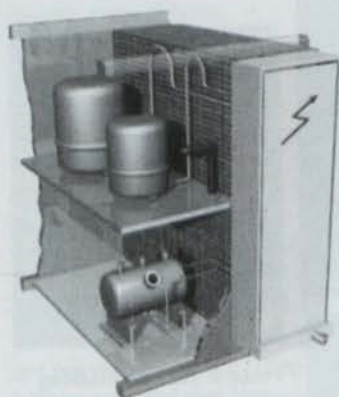
Yes, a good day was had by all!



# Air handling unit EC 2000

## **INCORPORATING**

- ◆ Active Noise Control
- ◆ Pre-wired and pre-piped control systems
- ◆ EC 2000 cooler
- ◆ Three heat recovery alternatives:-
  - Run around coils
  - Rotary heat wheels
  - Plate heat exchangers



EC 2000 COOLER

ABB Ventilation is now launching the EC 2000 COOLER – a complete, integrated air cooling unit for the EC 2000 air handling unit. The cooling module is fully operational when delivered from the factory, which minimises the costs of project design, installation, operation and maintenance. It is also very competitively priced and can stand up to comparison with any other cooling system design.

## ABB Ventilation

# ABB

Belgard Road, Tallaght,  
Dublin 24.

Tel: 01 - 405 7300;

Fax: 01 - 405 7324



# Active Noise Control in Ventilation

*Passive sound attenuation takes up space, increases pressure drops and raises the cost of an air handling unit. ABB is proposing to filter out unwanted noise electronically with its Aktipass technology.*

An air handling unit (AHU) can be a noisy beast. Pumping air inevitably creates hiss across a broad band of frequencies, which then has to be cancelled out through costly attenuation.

Traditionally, this comprises sound-absorbent splitters aligned downstream of the fan, and usually in a separate section. While these absorb noise quite well in the upper frequencies, lower frequencies are more tricky to attenuate, being easily transmitted and of most distraction to the human ear.

While the percentage cost of passive attenuation is pretty cheap compared with that of fans and motors, there can be many hidden costs, such as the overall size of an ahu, or the costs of providing plantroom space for a splitter section.

An alternative technology which has been extensively researched in recent years is that of active noise control. While the technology was found to be viable, research suggested that the costs were high relative to the passive approach of sound-deadening panels and splitters.

Ventilation equipment manufacturer ABB Ventilation Products believes otherwise, concluding that the extra cost of active noise control is amply compensated by reductions in the size of ahus, and improvements in sound performance.

As a result, ABB is poised to launch a range of EC 2000 ahus which forsake acoustic splitters for microphones, speakers and an on-board amplifier. In

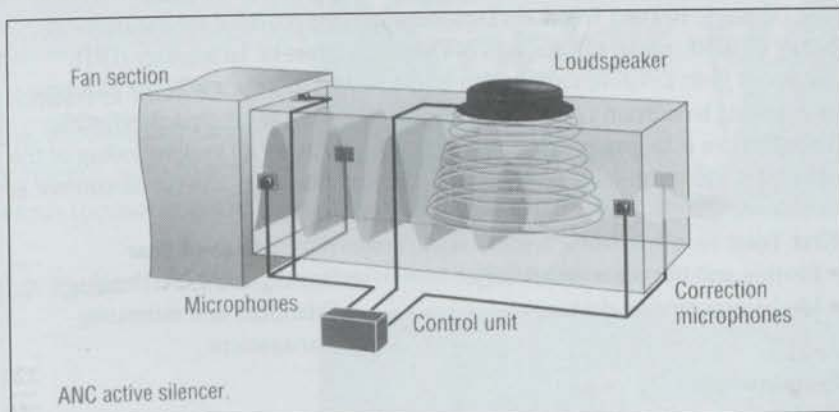


Figure 1: Simplified arrangement of the Aktipass active noise control system. Horizontally-arranged splitters can also be added inside the active noise section, helping to dampen any noise even further

technical terms, ABB's Aktipass noise control system is simplicity itself (figure 1). Strategically positioned microphones are used to measure the noise at the fan outlet. A microprocessor then reverses the noise signal and injects anti-noise downstream of the fan. This reduces the sound power level and cancels out the fan noise.

Finally, a bank of microphones tests the resulting sound level, correcting the amplified signal to obtain the desired sound.

All this is then incorporated within the main body of the ahu, obviating the need for a splitter section, although ABB will be offering hybrid ahus combining both active noise control and passive attenuation.

ABB has reached an "exclusive agreement" with the American company Digisonix to provide the amplification and associated active noise kit. Development work has been carried out by ABB to develop a range of splitters which fine-tune the attenuation provided by the active noise system.

ABB will initially be offering Aktipass on its EC 2000 Compact range of ahus, with air volumes from 3-14 m<sup>3</sup>/s.

The company is claiming big advantages for Aktipass. According to development engineer Stellan Akesson, unwanted sound in the lower frequencies – 63, 125 and 250 Hz – is difficult to attenuate as passive silencers struggle to cope with noise in that waveband. "With the Aktipass system", claims Akesson, "we can reduce sound levels by 9-10 dBA in the frequencies most easily heard by the human ear, all in a duct length of only 1.5m".

Akesson claims this can halve the length of a 3m ahu, very useful for projects where plantroom space is at a premium or where an ahu has to be close to the occupied zone, for example in clubs/dance halls.

Obviously, reducing the sound attenuation will also mean a slight improvement in pressure drop, possibly by around 10%, but this largely depends on the size of the ahu.

The solid-state circuitry should be reliable in operation, although introducing delicate electronic components into the relatively unsophisticated world of air handling does raise issues of maintenance and component longevity.

ABB stresses that active noise control provides a level of acoustic performance otherwise unattainable by more conventional means.

While Aktipass may well add 10-15% to the cost of an ahu, this very much depends on the application. In some cases the spatial requirements of passive silencing may be more expensive.

*This article is reproduced from Building Services Journal (UK).*

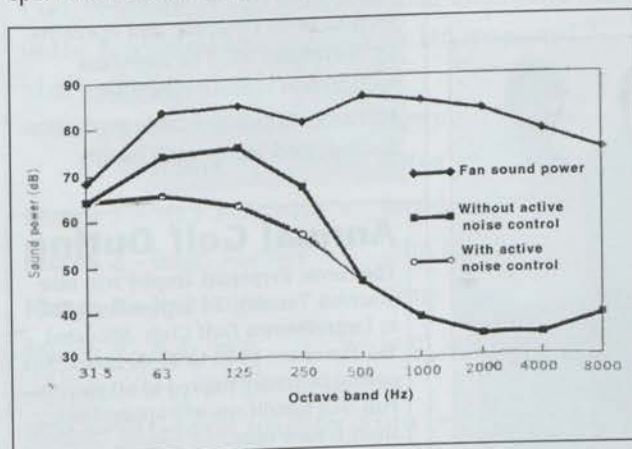


Figure 2: ABB's tests suggest that the attenuation provided by the active noise control alone is in the order of 10 dBA in the 125 Hz band. Adding splitters would improve on this performance



## IDHE NEWS

### IDHE Diploma Course Means Career Development

The Domestic Heating Engineers Diploma Course is provided for industry, on behalf of IDHE, under the auspices of Dublin Institute of Technology (DIT), Faculty of Built Environment, Bolton Street, Dublin 2. This is a 2-year part-time engineering technician's (Eng. Tech) course offered as an evening programme. The objective is to give people employed in the industry an understanding of the principles and techniques involved in heating engineering. The course content is as follows:

#### First Year

- Heating and hot water technology
- Mechanical services drafting

#### Second Year

- Heating and gas technology
- Quantities and estimating
- Management

#### Examinations

Students are expected to take a 3-hour written examination in each of the subjects covered by the course.

#### Entry Requirements

Department of Education senior examinations in Plumbing or equivalent.

#### Certificate

Students who successfully pass all examinations will be presented with a CPD Diploma in Domestic Heating Engineering.

Applications for the next programme are now open. Contact: Joe Newman, IDHE at Tel: 01 - 840 1820; Fax: 01 - 840 1820; Mobile: 087 - 2457729; Seamus Murrin, DIT, Tel: 01 - 402 4017; Fax: 01 - 402 4099.

### Continuing Professional Development (CPD)

A workshop sponsored by Heatmerchants Ltd - in conjunction with Betz Dearborn - was held on Wednesday, 9 June, 1999 at the Sheldon Park Hotel, Dublin. This Workshop carried 6 CPD points.

The morning session covered the chemistry in building services and the need to protect services from corrosion and other problems. The afternoon session covered practical demonstrations and solutions to various case studies.

The lecturer for the day was John Lynch, Senior Consultant, Betz Dearborn. He was assisted by Sean McGinley, Heatmerchants Ltd.



John Lynch with Kevin Collins, Peadar Behan, Joe Mullins, Paul Cleary, Dominic Girvan and Tony Gillick.

### AGM

The AGM of IDHE took place on Tuesday, 22 June, 1999 at IEL, Clyde Road, Dublin 4. Chairman Jim Hamilton's address focussed on consolidation of membership and measurement of achievements with regard to the Mission Statement.

He said the new administration facility worked to expectations; On education there is a requirement for further development, which will require close attention from the incoming executive; Register of members services is now finalised and should be made available electronically for the benefit of the industry; Promotional activities and materials are to be finally developed for the benefit of members.

The election of the new executive for the term 1999/2000 is as follows:-

Chairman: Jim Hamilton; Hon Sec: Eamon McGlade; Treasurer: Mario Mowlds; Education: Joe Newman; Communications: Dave Harris; Web Master: Kevin Farrelly; Promotions: Phil Morley; Registration: Paul Cleary.

As part of AGM the matter of Phase 2 of the development plan was discussed. It was agreed that a Code of Ethics is to be prepared for ratification at next AGM, along with a revision of the Constitution. It was agreed that the proposed IDHE Website be developed and the front page to be commissioned by September 1999; the members section to be dynamic and operative by November 99. The members section will contain specialist services, including a trade protection package and secure mail facility.

### Annual Golf Outing

The Hevac Perpetual Trophy will take place on Tuesday, 14 September 1999, at Luttrellstown Golf Club. Allocated Tee Times are 14.30 to 15.00 hours. The outing is strictly limited to 60 players. Full GUI handicaps will apply. Time sheet is now open.

New event this year will feature "The Bill Penrice Perpetual Trophy" (stroke play). Barlo Merriott PLC kindly sponsors this annual event.



# President's Outing at Newlands

*Sponsored by Coolair Ltd*

A very successful President's Day (John Hunter) of the BTU Golf Society took place on Friday, 11 June, at Newlands Golf Club. Special thanks to John on his magnificent prize and to John Lawlor of Coolair Ltd, for the generous sponsorship and splendid array of prizes on the day

In fine conditions, scoring was of a high standard, as can be seen by the following results:

- President's Prize:** Ray Byrne (19) – 41pts.  
**Class 1 – 1st:** Michael Kennedy (10) – 36pts  
**2nd:** Eamon vickers (9) – 35pts – Back 9  
**3rd :** Vincent Broderick (11) – 35pts  
**Class 2 – 1st:** Jim Nolan (13) – 34pts – Last 6  
**2nd:** Frank Lynch (14) – 34pts – Last 6  
**3rd:** Tony Gillen (14) – 34pts – Last 6  
**Class 3 – 1st:** Des O'Gorman (20) – 35pts – Back 9  
**2nd:** Brian Kearney (18) – 35pts  
**3rd:** Michael Murphy (23) – 33pts  
**Front Nine: 1st:** John Loughlin (16) – 21pts  
**Back Nine: 1st:** Bernard Costelloe (18) – 22pts  
**Visitors Prize – 1st:** Pat Walsh (18) – 35pts  
**Putting Competition – 1st:** David Daly

## Matchplay

Congratulations to all who won their 2nd round matches in the Eurofluid Handling Systems Ltd sponsored Matchplay event.

The quarter-final draw is as follows:

Home		Away
<b>Match 1</b> – Mick Kennedy	v	Brendan Keaveny
<b>Match 2</b> – Brian Kearney	v	John Lavelle
<b>Match 3</b> – Jim Nolan	v	Gerry Tobin
<b>Match 4</b> – Bob Daly	v	Sean Smith

Fully Handicap Difference applies.

Winner to confirm result by fax to Gerry Tobin on  
01 - 836 7014 (Tel: 087 - 2588495)



President's Prize – Overall winner Ray Byrne being congratulated by BTU President John Hunter.



3rd, Class 1 – Vincent Broderick with BTU Captain Frank Somers and John Lawlor of Coolair, who sponsored the President's Day.



1st, Class 2 – Jim Nolan (centre) being congratulated by John Lawlor of Coolair. Also pictured is BTU Captain Frank Somers.



2nd, Class 1 – Eamon Vickers with Frank Somers, BTU Captain and John Lawlor, Coolair.



# Energy Efficiencies in Cleanroom Environments

On the 30th June, the Irish Energy Centre – in co-operation with the Irish Cleanroom Society – held a workshop on energy efficiencies in cleanroom environments, in the Knockranny House Hotel, Westport.

Peter Brabazon of the Irish Energy Centre introduced the day by explaining that Ireland's high technology manufacturers had an estimated energy spend of £10 million for their cleanroom operations and this cost was rising annually. The majority of this was for electricity consumption.

An audience of over 40 representatives from leading Irish technology companies, including, Intel, Hewlett Packard, NEC Semiconductors and IBM, heard how they could save over £2 million pounds annually on energy use in their cleanroom operations. This would represent a reduction of over 100,000 tonnes of carbon dioxide emissions which is the main global warming gas.

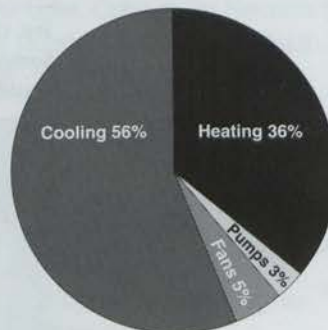
Until recently, there has been a feeling that people are reluctant to make changes to their cleanroom operations as they are crucial to the production process. One particle half the width of a hair could wreak havoc in an electronics



Peter Fernie, Irish Cleanroom Society with Charlie Lynn, Flour-Daniel, EEL Ltd, and Peter Brabazon, Irish Energy Centre.

results in high energy usage. Protection from uncontrolled ingress of external ambient air is achieved by creating a pressure differential between the cleanroom and its surroundings.

Within cleanrooms, HVAC energy is distributed on the following basis:



During the discussions it emerged that cleanrooms are not solely confined to the large hi-technology industries but can be found in a wide range of facilities. Some bakeries employ cleanrooms for the production of bread and confectionery, as this increases the shelf life of their products. The Williams Formula 1 racing team build their race cars in cleanrooms ... a far cry from most oily garages.

The workshop was organised under the Irish Energy Centre's "Self Audit Scheme" which is a voluntary initiative in which member companies commit themselves to regular energy audits of their energy



Andrew Parish, Irish Energy Centre with Denis Keane, Schering Plough; and Peter Fernie, Irish Cleanroom Society

consumption, the setting of annual energy saving targets, and the publication of an annual statement of their achievements. In return, companies are assisted in identifying, implementing and monitoring their energy saving projects.

The first speaker of the day, Dick Gibbons from Environmental UK Plc, outlined new international standards applying to cleanrooms and their implications for energy use. He was followed by Charlie Lynn of Flour-Daniel, EEL Ltd (US), who concentrated on getting the design aspects right in order to generate long-term energy savings. Brendan Roe of Project



Leo Johnson, Hewlett Packard (Mfg) Ltd with Brendan Roe, Project Management Ltd; and Peter Brabazon, Irish Energy Centre.

Management Ltd presented three case studies from Johnson & Johnson (Vistakon) and IBM where significant savings have been made by efficient design of the plant and correct operation.

The use of an automatic monitoring system was presented by John McHugh of Micronclean who showed that ongoing monitoring of a plant is the key to achieving savings. It is clear that unless plants are operated correctly, they cannot hope to achieve the economies or performance that have been built into their design. Leo Johnson of Hewlett Packard (Mfg) Ltd explained their approach to energy management and the use of "Energy Reduction Teams".

The day concluded with a presentation from Baxter Healthcare on some of the projects and procedures implemented in their Castlebar facility.

For further information contact: Andrew Parish, Marketing Executive (Technical), Best Practice Programme, Irish Energy Centre, Glasnevin, Dublin 9. Tel: 01 - 808 2077; Fax: 01 - 808 2244; email: parish@irish-energy.ie



Dick Gibbons, Environmental UK Plc with Gerard Lambert, Leo Laboratories; and Peter Brabazon, Irish Energy Centre.

cleanroom. As industry becomes more and more knowledgeable, this reluctance may soften and allow for greater scope to make improvements and generate further savings.

Cleanrooms are highly-controlled environments where the air quality is controlled to ensure the extreme standards of cleanliness required for the manufacture of pharmaceutical, electronic and healthcare goods. These high standards usually require high fresh air rates, extensive filtering, temperature and humidity control – all of which



SIME cast-iron boilers are recognised for their safety, endurance, energy savings and reliable performance, most of them still working perfectly here in Ireland after **25 years!**

They are designed and built in accordance with the European Directive CEE 92/42.

The cast iron body is **guaranteed for 12 years** against leaks, faults or defects on the strict understanding that installation and operation procedures have been carried out in accordance with the manufacturer's instructions and installation is by appropriately qualified parties to approved codes and practices.

SIME works while respecting and protecting the environment.



ARB

AR

1R-2R





**MANOTHERM  
LIMITED**

THE CONTROL CENTRES

4 WALKINSTOWN ROAD, DUBLIN 12  
Building Services News, Vol. 38, Iss. 7 [1999], Art. 1  
E-mail: manotherm@tinet.ie  
U 28 BANBRIDGE ENTERPRISE CENTRE  
SCARVA RD IND. EST., BANBRIDGE BT32 3QD, CO. DOWN  
Tel: 018206 62290 Fax: 018206 69990  
E-mail: sales@manotherm.freeserve.co.uk.

# Dwyer®

CONTROLS  
AND  
GAUGES

